

**STATE WATER RESOURCES CONTROL BOARD
BOARD MEETING SESSION – DIVISION OF FINANCIAL ASSISTANCE
SEPTEMBER 4, 2018**

ITEM 6

SUBJECT

INFORMATIONAL REPORT ON PREDICTIVE MODELING OF BEACH WATER QUALITY

DISCUSSION

The State Water Resources Control Board has awarded a total of \$1,455,679 in Proposition 50 funding through its Clean Beaches Initiative Grant Program to Heal the Bay for the Predictive Models of Beach Water Quality Project (Project). The Project has three (3) phases with a purpose of designing and testing predictive models for public notification of water quality conditions at California beaches (Phase I), optimizing developed models and developing guidance for predictive model implementation (Phase II), and expanding the predictive beach water quality information notification system (Phase III).

Phase I of the Project developed and tested predictive models using data on fecal indicator bacteria concentrations, and oceanic and atmospheric conditions. The Project then developed simple models for 25 different California beaches that predict when beaches are in and out of compliance with water quality standards. The results showed that predictive, statistical models often provide more accurate public notification actions than the current method used at California Beaches, and have a higher sensitivity to capture health standard exceedances.

Phase II of the Project optimized the models developed in Phase 1 and pilot tested the feasibility of using predictive models within existing monitoring and public notification programs at three (3) beaches including Doheny State Beach in Orange County, the Santa Monica Municipal Pier in Los Angeles County, and Arroyo Burro Beach in Santa Barbara County. The Project team worked with local beach managers to develop protocols for using predictive water quality models, and to develop guidance for implementing predictive water quality models throughout California. The results demonstrated successful integration of predictive models into routine monitoring and public notification programs.

Phase III of the Project is on-going and will be completed in March 2019. The Project team is tasked with building an automated beach water quality 'NowCast' system that provides daily predictions to local beach managers and the public for up to 20 California beaches in the summer seasons, and up to 5 California beaches in the winter seasons. Expansion to more California beaches is planned in the future.

The NowCast system is a comprehensive program that includes modeling, a public notification and education component, a beach manager communication program, and technical oversight. Model development and the long-term success of the NowCast system requires the support and participation of local beach managers.

Representatives of the University of California at Los Angeles, Stanford University, and Heal the Bay, will present an overview of the Project, and provide updates on Phase III of the Project.

POLICY ISSUE

N/A – Informational Item only

FISCAL IMPACT

N/A – Informational Item only

REGIONAL BOARD IMPACT

N/A – Informational Item only